

**What is claimed is:**

1. Tractive linear reciprocating driving apparatus having slipping module (4), slave engaging and reversing mechanics (15), slave sprocket (8), chain (3), guide column (7), in combination, comprising:

A frame (1) of driving apparatus mainly composed by guide column (7), auxiliary frame pillar (11) and frame end plates, both ends of frame (1) equipped with flywheel (2) and slave sprocket (8), with single endless chain (3) installed in between, guide column (7) used for unidirectional linear slipping and auxiliary frame pillar (11) installed on both sides of chain ring plane; slipping module (4) used for driving and slave engaging and reversing mechanics (15) thereof mounted on guide column (7);

Said slipping module (4) has upper and lower slide bar (12, 20) of slipping module mounted on said guide column 7 sliding upwards and downwards along the guide column, pedal (5) and handpower rod (6) used for propulsion mounted on outside butt plate of slipping module (4); wherein:

1) chain engagement means of said slave engaging and reversing mechanics (15) is positioned in the plane of chain ring, chain engagement means 14 is connected with upper and lower slave slide bars (16, 18) and mounted together on guide column 7, in the chain engagement means is provided a chain engaging toothed bar, the strained end thereof is float-connected with slipping module and connecting pieces that consist of pull-up rod (13), pull-down rod (21) and nose of connecting rod (22); there are two chain-engaging teeth (29, 31) towards both directions on said chain engaging toothed bar (19), together with chain-retaining board (17) with chain-retaining arc projection, jointly match with chain 3 and are alternately activated to work;

2) A reversing compensation means (10) used with slave engaging and reversing mechanics having a resilient member that can contact the front of chain tooth directly or indirectly in inverse direction, and a space or clearance is left for movement.

2. Tractive linear reciprocating driving apparatus according to claim 1, wherein said reversing compensation means is a resilient contact mobile mechanics mounted on or beneath the slave sprocket (8), the arm (37) under the force of resilient member elastically contacts the front of chain tooth of slave sprocket (8).

3. Tractive linear reciprocating driving apparatus according to claim 1, wherein reversing compensation means is a modified single-stage flywheel in which there is a structural member for transmission between leaf spring (45) and chain tooth, leaf spring props up the rear end of jack to make it elastically contact first the front of ladder type rackets and then the

front of chain tooth of outer hull indirectly.